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EXAMINER

MOORE, KARLA A

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| ART UNIT | PAPER NUMBER |
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1763

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/812,086

Applicant(s)

MAKINO ET AL.

Examiner

Karla Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 19-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Each of the claims is dependent on themselves or on a claim that is dependent on themselves. It is not clear what Applicant's intends to claim.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 12-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,312,525 to Bright et al. in view of U.S. Patent No. 4,852,516 to Rubin et al.

4. Bright et al. disclose a vacuum processing apparatus substantially as claimed and comprising: an atmospheric transfer block including a transfer box (Figure 1, 300) inside of which an object wafer to be processed is transferred under an atmospheric condition by a transfer robot (306) disposed therein,

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the transfer box having a plurality of wafer cassettes (302) installed at a front surface portion of the transfer box and connected thereto, the vacuum transfer chamber enabling transfer of the object wafer therein under a vacuum condition; at least one vacuum processing chamber (14) disposed at a rear or side of the vacuum transfer chamber and being connected thereto, the at least one vacuum processing chamber being supplied with a gas () and enabling processing of the object wafer transferred under the vacuum condition by a plasma generated therein; and a plurality of connector portions of utility paths under the apparatus (Figures 2 and 3, 34 and 46), wherein the utility paths enable supply of utilities including the gas supplied to the vacuum transfer chamber or the vacuum processing chamber and enables discharge of an exhaust from the vacuum transfer chamber or the vacuum processing chamber including the utilities supplied thereto (column 6, rows 13-36).

5. However, Bright et al. do not explicitly teach the plurality of connector portions of utility paths being disposed substantially linearly under a connection portion of the transfer box and the vacuum transfer chamber, and being disposed at the rear surface portion of the transfer box. Nor does Bright et al. explicitly teach that any of the gases are supplied from the building having the vacuum processing apparatus installed therein (i.e. the same building in which the processing apparatus is installed).

6. Rubin et al. disclose providing a plurality of detachable, modular processing chambers (Figures 1-2 and 7, 100) that form a multi-chamber processing apparatus each with connections (174) to service facilities below the individual processing chambers and supplied from a building having the processing chambers installed therein (via a conduit, 172) for the purpose of providing a unique and flexible base for future expansion and change, as well as providing each of the modular processing chambers as an independent, self-contained unit adapted to perform a specified dedicated function or operation (column 1, row 64 through column 2, row 13 and column 5, rows 63 through column 6, row 28 and column 6, rows 45-64). With respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber. Further, each of the connection openings in Rubin et al. is provided

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over substantially the entire area of the apparatus (see Figures 3 and 5), and thus would be disposed at a rear surface of a chamber (e.g. transfer box) where rear is interpreted to mean side facing another downstream chamber. Where rear surface is interpreted to mean below or underneath the chamber, the connector portions provided in Rubin et al. also meet this interpretation (see Figures 1 and 2).

7. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided a plurality of detachable, modular processing units forming multi-chamber processing apparatus each with connections to service facilities below the individual processing chamber in Bright et al. in order to provide a unique and flexible base for future expansion and chamber as well as to provide each of the modular processing chambers as in independent self-contained unit adapted to perform a specified dedicated function or operation as taught by Rubin et al.

8. With respect to claim 14, the utilities may include plural kinds of gases, water and air supplied from the building (column 6, rows 6-8).

9. Regarding claim 17, with respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber.

10. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. and Rubin et al. as applied to claims 12-14 and 17 above, and further in view of U.S. Patent No. 6,649,019 to Bernard et al.

11. Bright et al. and Rubin et al. disclose the invention substantially as claimed and as described above.

12. However, Bright and Rubin et al. fail to teach the connector portions of the utility paths connect with paths arranged under a floor of the building in which the vacuum processing apparatus is installed.

13. Bernard et al. teach providing connector portions of utility paths of a processing apparatus under a floor (Figure 4, 36) of the building in which the apparatus is installed for the purpose of enabling the

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floor area required to be reduced, leaving the space around the apparatus free to enable operators to intervene on the apparatus without hindrance (column 8, rows 4-9).

14. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided connector portions of the utility paths of the processing apparatus in Bright et al. and Rubin et al. under the floor of the building in order to enable the floor area required to be reduced, leaving the space around the apparatus free to enable operators to intervene on the apparatus without hindrance as taught by Bernard et al.

15. Regarding claim 16, with respect to the recitations drawn to the plurality of connector portions being disposed substantially linearly under a connection portion of a transfer box and a transfer chamber, it is noted that the various connection openings in the apparatus of Rubin et al. may be provided below any chamber. This would include load lock chambers (16) in Bright et al. which are the connection portion between the transfer box and transfer chamber.

16. Claims 18 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bright et al. and Rubin et al. as applied to claims 12-14 and 17 above, and further in view of U.S. Patent No. 5,855,681 to Maydan et al.

17. Bright et al. and Rubin et al. disclose the invention substantially as claimed and as described above.

18. However, Bright and Rubin et al. fail to teach providing display units disposed at the rear surface portion of the transfer box for enabling display of a status of a utility.

19. Maydan et al. teach providing display units at various locations for the purpose providing an interface between operators and technicians and a processing system (column 21, rows 21-19).

20. It would have been obvious to one of ordinary skill in the art at the time the Applicant's invention was made to have provided display units in Bright et al. and Rubin et al. at locations where the operators and/or technicians would be able to interface with the system as taught by Maydan et al.

Response to Arguments

21. Applicant's arguments with respect to new claims 12-23 have been considered but are moot in view of the new ground(s) of rejection. Each of the newly added limitations of new claims 12-23 is addressed above. Bright et al. continues to be relied upon as it still substantially discloses Applicant's claimed invention. Rubin et al., Bernard et al. and Maydan et al. are relied upon for further teachings.

Conclusion

22. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karla Moore whose telephone number is 571.272.1440. The examiner can normally be reached on Monday-Friday, 9:00 am-6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on 571.272.1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC)

at 866-217-9197 (toll-free).



Karla Moore
Patent Examiner
Art Unit 1763
22 December 2005